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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,198	11/13/2001	Tsuyoshi Sano	U013609-7	9580
140	7590	04/06/2004	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			SHOSHO, CALLIE E	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/914,198	SANO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Callie E. Shosho	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 7-13 and 23-25 is/are allowed.
- 6) ☒ Claim(s) 14-17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. All outstanding rejections and objections are overcome by applicants' amendment filed 12/29/03.

The following action is non-final in light of the new grounds of rejection as set forth below.

**Claim Rejections - 35 USC § 102**

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 14, 17, 19, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Takemoto et al. (U.S. 6,488,751) taken in view of the evidence in Kubota et al. (U.S. 5,948,512).

Takemoto et al. disclose ink set comprising yellow, magenta, cyan, black, light magenta, and light cyan inks wherein the inks comprise water, solvent, pigment, dispersant, and resin emulsion wherein the resin has particle size of 5-100 nm. The dispersant is present in amount of, for instance, 0.5-1%, while the pigment is present in amount of 2-3% for the dark inks and 0.3-0.4% for the light inks. The resin emulsion includes resin emulsion known under the tradename Voncoat 4001 which is well known, as evidenced by Kubota et al. (col.15, lines 8-9), as possessing minimum film-forming temperature of 5 °C. There is further disclosed ink jet

recording method wherein the above inks are ejected from ink jet printer onto substrate (col.2, lines 44-55, col.3, lines 38-40, col.4, lines 22-27, col.6, lines 10-17 and 65, col.4, lines 44-59, col.8, lines 18-30, 45-50, and 58-58, col.9, lines 26-30, and col.12, lines 9-11).

In light of the above, it is clear that Takemoto et al. anticipate the present claims.

**Claim Rejections - 35 USC § 103**

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto et al. (U.S. 6,488,751) in view of Sano et al. (U.S. 5,503,664).

The disclosure with respect to Takemoto et al. in paragraph 3 above is incorporated here by reference.

The difference between Takemoto et al. and the present claimed invention is the requirement in the claims of amount of fine polymer particles.

Sano et al., which is drawn to ink jet inks, disclose the use of 0.1-40% resin emulsion in order to produce ink with high optical density and suitable viscosity (col.4, lines 5-12 and col.5, lines 12-20).

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In light of the motivation for using specific amount of resin emulsion disclosed by Sano et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to use resin emulsion in this amount in the ink of Takemoto et al. in order to produce ink with high optical density and suitable viscosity, and thereby arrive at the claimed invention.

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6. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takemoto et al. (U.S. 6,488,751) in view of Santilli et al. (U.S. 5,738,716).

The disclosure with respect to Takemoto et al. in paragraph 3 above is incorporated here by reference.

The difference between Takemoto et al. and the present claimed invention is the requirement in the claims of the viscosity and surface tension of the inks.

Santilli et al., which is drawn to ink jet ink set, disclose the use of ink set comprising inks possessing surface tension of 20-60 dyne/cm and viscosity of 1-10 cP in order to produce inks with effective jet velocity, drop size, and stability (col.6, line 50-col.7, line 9).

In light of the motivation for using inks with specific viscosity and surface tension disclosed by Santilli et al. as described above, it therefore would have been obvious to one of ordinary skill in the art to control the viscosity and surface tension of the inks of Takemoto et al. to such values in order to produce inks with effective jet velocity, drop size, and stability, and thereby arrive at the claimed invention.

**Allowable Subject Matter**

7. Claims 1-5, 7-13, and 23-25 are allowable over the "closest" prior art Takemoto et al. '069 (U.S. 6,075,069) for the following reasons.

----- With respect to claims 1-4, 9-13, and 23-25, it is noted that the filing date of Takemoto et al. '069 lies between the filing date and the priority date of the present application as seen below:

Application No. 09/914,198 *priority date* - 12/27/99

Takemoto et al. '069 *filing date* - 6/13/00

Application No. 09/914,198 *filing date* - 12/27/00

Under MPEP 706.02(b), rejections based on 35 U.S.C. 102(e) can be overcome by perfecting the filing date of the priority document. Applicant's submission of certified priority document on 2/23/01 and its English language translation on 12/29/03 results in the perfection of the foreign priority filing date. Thus, Takemoto et al. '069 is no longer applicable against claims 1-4, 9-13, and 23-25.

With respect to claims 5 and 7-8, it is noted that Takemoto et al. '069 disclose ink set comprising inks used in ink jet printing to make a recording wherein the ink set comprises yellow, light magenta, magenta, light cyan, cyan, and black inks. The inks are made from pigments which include Pigment Red 122, Pigment Blue 15:3, Pigment Yellow 74, and carbon black. However, there is no disclosure or suggestion that the light inks comprise fine polymer particles, i.e. resin emulsion, as required in the present claims. In fact, Takemoto et al. '069 teach against the light inks comprising resin emulsion. Col.10, lines 3-37 of Takemoto et al. '069 discloses that light magenta ink and light cyan ink comprise reactant to break the state of dispersion and/or dissolution of the colorant and that only inks free of such reactant comprise resin emulsion. Thus, it is clear that the light magenta and light cyan inks of Takemoto et al. '069 do not comprise resin emulsion as required in present claims 5 and 7-8.

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8. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

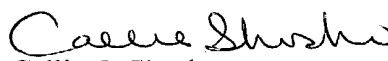
Claim 18 would be allowable if rewritten in independent form given that there is no disclosure or suggestion in Takemoto et al. (U.S. 6,488,751) that the fine polymer particles comprises glass transition of  $-15$  to  $10^{\circ}\text{C}$  as required in present claim 18.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CS  
4/1/04

  
Callie E. Shosho  
Primary Examiner  
Art Unit 1714